

Communicating Culture Consistently: Evidence from Banks*

JILLIAN GRENNAN
Duke University

ABSTRACT

Code-switching occurs when the language used to express a concept shifts across audiences. What does code-switching across stakeholders reveal about a firm's type? Using the banking industry as a laboratory, I find an inverse relation between code-switching and value creation. For intuition, I offer a model in which executives optimally pair a combination of incentive pay and narrative (e.g., honest bankers) that may not match between executives and non-executives. This mismatch minimizes costs in low-risk times but amplifies them in high-risk times. Empirically, the code-switching relation is evident during multiple downturns, potentially offering insight into debates surrounding culture, risk management, and transparency.

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* Authors: Grennan, Duke University, Fuqua School of Business (e-mail: jillian.grennan@duke.edu). I thank Mitchell Ochse for excellent research assistance. I thank Joseph Pacelli, Rodney Ramcharan, Tracy Yue Wang, and seminar participants at the Berkeley Culture Conference and Duke University for helpful comments on an earlier draft of the paper.

I. Introduction

A central challenge to efficient capital allocation is identifying high-quality investments. But as the challenges of the financial crisis and pandemic exemplify, neither the shareholder or stakeholder version consistently and unambiguously identify high-quality investments. Stakeholder capitalism, in theory, could move forward as a legitimate contender if investors made use of novel data sources to extract a signal of value that is better than that generated by crony capitalists. In this paper, I propose a novel quantitative measure, corporate “code-switching,” as such a signal. Code-switching occurs when the language used to express a concept shifts across audiences. This tactic can convey alternative meanings or ingratiate audiences, but what does it reveal about a firm’s quality, especially when it switches across stakeholders (e.g., employees, investors, customers, etc.)? Using the U.S. banking industry as a laboratory, I document how code-switching about the firm’s cultural values explains meaningful variation in performance, especially during the crisis and pandemic.

While it is well-established that corporate culture plays a significant role in driving firm and market outcomes (Zingales, 2015; Karolyi, 2016; Graham, Grennan, Harvey, and Rajgopal, 2018), determining which firms have an effective culture as opposed to a lip service or warring tribes culture is challenging. This suggests that a quantitative measure that proxies for an effective culture could meaningfully move the shareholder-stakeholder dilemma forward. To develop such a proxy, I focus on U.S. banks. Culture’s role in banking has attracted considerable attention from academics and regulators in recent years (Fahlenbrach, Prilmeier, and Stulz, 2012; G30, 2015; Egan, Matvos, and Seru, 2019). Despite public recognition of the need for cultural reform in the financial services industry, conduct failures and ethical lapses persist.¹ Thus, a key benefit of focusing on banks is the meaningful variation

¹For example, Wells Fargo’s fake account scandal (Reckard, 2013), Citigroup, UBS, and other banks’ role in manipulating the Libor (Enrich, 2015), Goldman Sach’s role in setting up a fraudulent fund in Malaysia (Goldstein and Stevenson, 2018), and most recently, the extension of excessive leverage to family funds such as Archegos.

in cultural values, attempts to change cultural values and how they are communicated to key stakeholders, and repeated measures of performance under stress.

To provide intuition for the empirical tests, I offer a model that builds on the recent theoretical work on narratives (Gibbons and Prusak, 2020; Gorton and Zentefis, 2020; Akerlof, Matouschek, and Rayo, 2020) as well as canonical work on multitasking (Holmstrom and Milgrom, 1991). In the baseline setup, the focus is on a culture that executives purposefully design and it is implemented through a narrative that influences the efforts of employees. Multitasking matters because firms must find a way to motivate employees to both work hard and work on the good tasks. This setup results in executives optimally selecting a cultural narrative for the rank-and-file employees that differs from their own cultural narrative. The executives will tell a narrative to employees about the culture that induces them to exert first-best effort at a minimal cost. This occurs when the employees at the bank believe that their work contributes to a higher purpose and so the employees are motivated to exert effort despite relatively low-powered incentives relative to industry peers. In contrast, the executives always choose high-powered incentives for themselves leading to inconsistent cultural communication. In this sense, culture is still purposefully designed but executives are strategically miscommunicating with rank-and-file employees. In good times, the mismatch minimizes costs. But in bad times, there is a separating equilibrium between consistent and inconsistent communicators. Both employees and rational, competitive investors update in bad times on the executives' true narrative, which in turn reduces effort, leads to competitive selling, and amplifies the poor performance in bad times.

To test the hypotheses that banks with executives that code-switch will underperform in downturns, I examine whether differences in how consistently a U.S. bank communicates its cultural values can explain differences in that bank's performance. To empirically measure consistency in the cultural values communicated to stakeholders, I make use of the wealth of data now available via the Way Back Machine, an internet archiving platform. I construct

a panel dataset of the records through which cultural values are communicated to various stakeholders (e.g., investors, employees, customers). I then create a simple count of the number of cultural values that are inconsistently communicated. For example, a bank that describes a strong commitment to integrity to its investors but not its employees is recorded as inconsistent communication. This innovative measure then serves as a proxy for the degree to which executives adopt practices to align employees' expectations around these cultural values. Overall, the sample spans from 2004 to 2020 and covers 300 U.S. bank holdings companies. To establish the external validity of these measures, I match the code-switching data to Glassdoor and 10-k data. While the measure is positively correlated with these measures, they do not fully account for the variation in code-switching. Thus, these measures appear to capture a separate aspect of culture, more akin to lip service.

Armed with these new measures, I then examine which bank characteristics are associated with more inconsistent cultural communication. The two most important characteristics are firm size and year. After the financial crisis, defined as after 2011, banks are 10 percentage points more likely to communicate their culture consistently, but larger banks in terms of both assets and number of employees communicate their culture more inconsistently. Given that it is harder to manage large banks and to coordinate across subgroups in such banks, such differences seem plausible. In line with the view that consistent cultural messaging is more difficult in larger firms, banks that recently went through a large M&A deal and banks that pay their CEOs more (a proxy for the marginal cost of managing) are also more likely to be inconsistent. In contrast to the results for firm size, I find no evidence of a relationship between bank exposure to risk and the consistency with which culture is communicated, nor do I find differences in annual stock returns, volatility, Tier-1 capital ratios, nonperforming loans, or reliance on off-balance-sheet activities. Finally, CEO characteristics and institutional ownership do not seem to matter, but I find some statistical evidence that board independence and governance as proxied by the E-index matter ([Bebchuk, Cohen,](#)

and Ferrell, 2009).

Next, I examine the association between inconsistent cultural communication and financial performance using a panel spanning from 2004 to 2020. I examine both the cross-section of banks and within-bank variation to account for unobserved, time-invariant heterogeneity across banks. The within-bank and cross-sectional results convey the same message: inconsistent cultural communication is associated with significantly worse financial performance in terms of return on equity (ROE). These results hold after controlling for various bank characteristics and time fixed effects. When examining the individual cultural values that are inconsistently communicated, I find that detail-orientation, collaboration, and risk-orientation each have a significant negative relation to ROE. This finding supports Bénabou and Tirole (2003), which highlights the importance of coordination in motivating employees. Given that I control for the content of the cultural values, it is important to emphasize that these results cannot be explained by differences in values but rather differences in how the cultural values are communicated.

Crucially to the theory, culture may matter more when unforeseen events arise. Thus, I examine the financial crisis of 2007 and 2008 as well as the pandemic of 2020. First, I confirm that the stock market performance of banks during the financial crisis is negatively correlated with inconsistent cultural communication. Next, I show that this remained the case during the pandemic. As such, I turn to understanding the degree of code-switching. For each value miscommunicated, a bank lost an annualized 2.8% to 3.3% during the financial crisis from July 2007 to December 2008. This result is statistically significant by itself and when I include additional controls for bank characteristics and pre-crisis return characteristics. In comparison to other independent variables in the regression, inconsistent cultural communication explains about half the economic magnitude as leverage does. When examining the individual cultural values that are inconsistently communicated, I find that detail-orientation, collaboration, and risk-orientation each have a significant negative

relation to crisis returns.

Given that some have argued that the financial crisis was a foreseeable event, I refine the unforeseen event hypothesis test by examining private mortgage-backed securities (MBS) versus traditional loans. As [Foote, Gerardi, and Willen \(2012\)](#) argue, brokers did not know the mortgages that they were issuing were hardwired to explode; in fact, unlike the other mortgages that were guaranteed by government-sponsored enterprises (GSEs), generating and retaining private MBS is a decision that had no precedent. I find a strong positive correlation between inconsistently communicated cultural values prior to the crisis and a bank's holding of private MBS in 2007 and 2008. For each additional cultural value inconsistently communicated pre-crisis, a bank held \$0.8 billion more in private MBS. In comparison, cultural inconsistency explains more of the variation than similar tests that examine risk management ([Ellul and Yerramilli, 2013](#)). In contrast to the private MBS test, I run a placebo check on the unforeseen hypothesis using traditional loans as the outcome variable. Specifically, I find no evidence to suggest that more bad loans were issued by banks with inconsistent cultural communication. Taken together, these findings support the notion that consistently communicating culture matters for bank performance, and in particular, when employees' decisions have no precedent.

Finally, I perform a number of robustness checks on the data and analyses. I correlate the code-switching with other measures of an ineffective culture. Next, using the transcripts of earnings guidance, I flag those in which executives make comments about culture, employees, or qualitative aspects of performance. I find a significant negative correlation between executives that align expectations about culture in their guidance calls and the number of cultural values that are miscommunicated. Given this link and the plausibility that qualitative guidance is quasi-random since it is often ad-hoc commentary by executives rather than the numbers selected at the discretion of the finance function, I use this alternative proxy as an instrument. The instrumental variable test produces a point estimate of simi-

lar magnitude to the main results and provides suggestive evidence that consistent cultural communication is associated with enhanced bank performance.

This study pushes forward the corporate culture literature by examining code-switching, a mechanism that helps identify when the dominant culture may be different than the aspirational culture. Further, it provides a theoretical construct for understanding how culture can influence performance. Prior empirical research establishes the importance of cultural values (Guiso, Sapienza, and Zingales, 2015) and norms, or day-to-day practices, that employees adhere to for firm performance (Graham et al., 2018). Yet few papers identify a mechanism for establishing these values and norms rather they focus on formal institutions such as governance that may lead to underinvestment in culture (Grennan, 2018). The obvious challenge for most researchers is that of observing these mechanisms (e.g., onboarding, training, and mentorship, etc.). This study circumvents these challenges by providing evidence on how consistently communicating culture can influence performance. In doing so, this study also makes contributions on the measurement front for culture.

Specifically, this study builds upon a study by Guiso et al. (2015) who collect data on Standard and Poor’s 500 (S&P 500) companies’ webpages. I also gather cultural values from websites, but I extend their insight in two ways. First, I have a panel dataset rather than a snapshot. Second, I create a measure that captures the consistency across website themes. This measure of consistent communication is important because it proxies for an often-postulated mechanism connecting culture and performance – expectation alignment. Guiso et al. (2015) fail to find any significant correlation between their measures of cultural value and performance, so they conclude that these values are just advertisements and not very important. Following this finding, researchers have largely ignored websites as a source of cultural information. By examining websites from the lens that they could convey a pattern of communication, I show how they can be a source of cultural information. My findings also provide indirect support for an alternative explanation for the website measure of cultural

values not being important. Namely, theory that argues it is not what the cultural values are that matters but employees' consensus and intensity of feelings about the importance of the values.

Overall, this study contributes to the vast literature on the financial crisis of 2007 and 2008 and the quickly growing literature on the pandemic, informing debates on the role of leadership, boards, and culture (Fahlenbrach and Stulz, 2011; Fahlenbrach et al., 2012; Adams and Mehran, 2012; Ellul and Yerramilli, 2013; Cheng, Hong, and Scheinkman, 2014; Thakor, 2016; Lo, 2016; John, De Masi, and Paci, 2016; Pan, Siegel, and Wang, 2017; Lins, Servaes, and Tamayo, 2017; Cox, Greenwald, and Ludvigson, 2020; Acharya, Engle, and Steffen, 2021; Li, Liu, Mai, and Zhange, 2021). It also contributes to a research emphasizing the role of corporate culture in value creation (Hermalin, 2001; Guiso et al., 2015; Graham et al., 2018; Grennan, 2019). By providing evidence on how corporate culture consistency influences performance, this study identifies both a mechanism and a metric that regulators, supervisors, and executives can use to evaluate potential crisis performance (Thakor, 2014; Assaf, Berger, Roman, and Tsionas, 2017; Fiordelisi, Raponi, and Rau, 2018). More broadly, this research complements findings from research on CEO communication (Bertrand and Schoar, 2003; Bolton, Brunnermeier, and Veldkamp, 2013; Graham, Harvey, and Puri, 2013), middle management practices (Bloom and Van Reenen, 2007; Bloom, Sadun, and Van Reenen, 2012; Bandiera, Lemos, Prat, and Sadun, 2018), social capital (Guiso, Sapienza, and Zingales, 2004; Servaes and Tamayo, 2017), relational contracts (Macaulay, 1963; Gibbons, 1998; Baker, Gibbons, and Murphy, 2002; Gibbons and Henderson, 2013), reputation and trust (La Porta, Lopez-de-Silanes, Shleifer, and Vishny, 1997; Song and Thakor, 2018; Thakor and Merton, 2018), and societal culture (Weber, 1930; North, 1991; Stulz and Williamson, 2003; Guiso, Sapienza, and Zingales, 2006, 2008; Fernández, 2011; Algan and Cahuc, 2013).

II. Theoretical Motivation

A. *Related literature*

Corporate culture is an intangible asset designed to meet unforeseen events (Kreps, 1990). Culture includes the values and norms widely shared and strongly held throughout the firm that help employees understand which behaviors are and are not appropriate (O'Reilly and Chatman, 1996). Cultural values are ideals that employees strive to fulfill, while cultural norms are the day-to-day practices through which employees attempt to live out these values.²

From an economic viewpoint, culture is a determinant of performance because it both complements and substitutes for many of the other formal governance structures that economists have long studied (North, 1991; Hermalin, 2001). As Van den Steen (2010) argues, the reason why shared cultural values have such a pervasive influence is that they reduce or eliminate differences in objectives and, thus, the agency problems that arise from such differences in objectives. Beliefs cannot be aligned without consistent communication. Similarly, as is argued by Lazear (1995) culture is an alternative to directly motivating employees through compensation. In this view, corporate culture is closely related to the role of guilt or loyalty. When monitoring is extremely costly, a firm may choose to make an upfront investment in creating a strong, homogenous culture that helps to alter worker values and tastes. Such a view that culture creates identity is also echoed by Akerlof and Kranton (2005). Finally, some have argued that culture is a way to improve the efficiency of information dissemination within a firm (Cr  mer, 1993; Cr  mer, Garicano, and Prat, 2007). In this sense, culture is a stock of capital that relates to common language, beliefs, and expectations. Consistent communication is necessary to generate this capital stock.

²(Guiso, Sapienza, and Zingales, 2015) give the example of impeccable customer service being a value, while the associated norm would be employees exhibiting a day-to-day positive attitude toward customers.

A second key point from the economics literature is that culture is most likely to matter when situations arise for which there are no contractual guidelines (potentially because it is costly to monitor adherence) and that have no precedents. For example, as [Kreps \(1990\)](#) argues, unforeseen situations are best met by a solution that people will tend to use in the absence of communication, because it seems natural, special, or relevant to them. Cultural values underlie these type of solutions, and a firm will optimally try to promote understanding of cultural values in the minds of hierarchical inferiors. Those employees who make decisions in the firm’s name will be judged by their diligence in applying and embracing those values. Thus, this informal system will make the solution defined by cultural values seem natural to those employees even in situations that have no precedents.

B. Baseline model

This model builds off of recent work exploring narratives in a corporate context ([Gibbons and Prusak, 2020](#); [Gorton and Zentefis, 2020](#); [Akerlof et al., 2020](#)). The baseline setup follows the tradition of [Holmstrom and Milgrom \(1991\)](#) multi-tasking framework. There are two sets of $n \geq 2$ employees. The first set is the executives and the second set is the rank-and-file employees. Within sets the employees are identical and all share the same narrative about the cultural values. The importance of code-switching comes when different narratives about the cultural values and norms are selected for rank-and-file employees and executives.

Let the set of employees $e = 1, \dots, n$ simultaneously choose two actions $a_e, b_e \geq 0$ at cost $c(a_e + b_e)$. The actions result in the collective output for all employees in the set defined as $f(\mathbf{a}, \mathbf{b})$ and individual performance measures $\phi_e = g(a_e, b_e; \mathbf{a}_{-e}, \mathbf{b}_{-e})$. Vectors are represented in bold. Both the employees performance measures and output are contractible but the actions are not. As with standard multitasking problems, let c , f , and g be smooth functions with c strictly increasing and convex and let f be strictly increasing and concave.

Define the relative performance measure of employee e in a given set as $\Delta\phi_e = \phi_e -$

$\sum_{j=1}^n \frac{\phi_j}{n}$. While the standard interpretation of a_e and b_e in the multitasking framework is as a trade-off between quantity and quality, an alternative interpretation is that a_e is effort devoted to an individual task, ϕ_e represents performance on that task, and b_e is effort devoted to actions that cannot be contracted upon such as helping others with their own tasks or being an ambassador for the cultural narrative. This alternative interpretation helps to ground the role of code-switching in reality.

Next, let employee e 's total compensation be $w_e(y, \phi)$ and employee e 's payoff is $w_e(y, \phi) - c(a_e + b_e)$. For simplicity assume that w_e is linear and symmetric across employees so that $w_e(y, \phi) \equiv y/n + \lambda \Delta \phi_e$ for some $\lambda \geq 0$ where λ is a constant that captures the strength of the employees' monetary incentives. The set of executive employees choose λ so as to maximize the joint surplus of their own rewards $f(\mathbf{a}, \mathbf{b}) - \sum_e (a_e + b_e)$ subject to the constraint that a_e, b_e maximizes the executives e 's payoff given a_{-e}, b_{-e} and the rank-and-file employees rewards.

Given that the first derivative with respect to a_e for the set of executive employees is greater than the first derivative with respect to b_e a first-best cannot be achieved and instead. In other words, the optimal action with respect to quality vs. quantity or own vs. helping is not achievable. The introduction of narratives and code-switching will allow the executives to get closer to first-best.

C. Adding code-switching

To get to code-switching, the first necessary step is to add a narrative. Both the rank-and-file employees and the executives receive a story or narrative that serves as an additional source of incentives. This story will allow the set of employees to get closer to implementing the first best. Employee e 's payoff will be $w_e + s_e - c(a_e + b_e)$, where the new term s_e depends upon the employee's actions and set of employees output as follows: $s_e(a_e, b_e, y) \equiv \alpha(a_e - a^*) + \beta(b_e - b^*) + \tau(y - y^*)$. The narrative chosen by the executive team is represented by non-negative constants α , β , and τ . A story that emphasizes α is one that represents

the first aspect, generating a high volume of output. A story that emphasizes β is one that represents the second aspect, generating a high quality output, or helping co-workers. A story that emphasizes τ is community-oriented and represents a positive identity associated with the goal of the firm.

While the executive set of employees gets to choose any narrative for themselves and the rank-and-file employees, they must devote resources to constructing the narratives and disseminating them to members. Therefore, it is useful to assume that $\alpha + \beta + \tau * T$ for some parameter $T \geq 0$. This assumption makes it such that the executives face a constant returns to scale in the intensity of the story and for simplicity the marginal cost of α and β are equal.

The importance of code-switching is evident when focusing on an instructive case of this problem. Namely, minimizing costs with respect to the combination of monetary incentives and story subject to the constraint that the rank-and-file employees choose the first best. The optimal solution is characterized by the marginal benefit of a higher action being equivalent to the marginal cost for the rank-and-file set of employees. For illustrative purposes, the focus will focus on a particular solution that helps to illustrate why firms may choose to code-switch.

The optimal solution will necessarily take on one of the following two forms: code-switching or consistent culture. The code-switching culture occurs when $\tau = \frac{n-1}{n}$ and $\lambda = \beta = 0$. In this case, T which represents the marginal cost of a community-oriented story is below the threshold of the severity of the multitasking problem. As such, the executives optimally choose to adopt a community-based story for rank-and-file employees and remove all monetary incentives given the attractiveness of the community-based story. All else equal, the cost of telling this community-based story is sufficiently low and thus, firms that produce the types of output associated with a community-based story will attract rank-and-file employees that naturally gravitate toward this design. In contrast, the executives

will not choose a community-based story for themselves instead preferring substituting the community-based story for high-powered incentives. In math this is $\lambda, \beta > 0$ and $\tau = 0$. Only when the executives choose both high-powered incentives for themselves and the rank-and-file employees will there not be code-switching.

D. Code-switching and bad times

To understand why code-switching may matter more in bad times than good times, consider an extension whereby employees are given tasks of high or low type. When the economy is good, there will be more tasks that are of the high type but in the bad economy a greater portion of bad tasks. More employee effort is required for low type tasks. The full distribution of tasks is unknown by rank-and-file employees and investors. Investors are risk-neutral and competitive and always begin by believing the narrative of the executives. The investors, however, will update their beliefs about narrative and task type over time. As with the case of two sets of employees, the optimal solution is often code-switching because it gives the high-level employees a chance to exit their high-powered incentives before the output of the bad tasks is observed. The rank-and-file employees learn of the true distribution of tasks in this process and no longer believe the narrative. This, in turn, reduces the quality of their output. The investors see this second reduction in quality and update their beliefs that the narrative is false and the task type is low. This creates more selling pressure as investors are competitive and leads to worst performance in bad times.

III. Data

A. Sources

I gather banking culture and financial data from multiple sources. The data sample spans 2004 to 2020 to allow for coverage of the full business cycle. The sample includes all bank holding companies (BHCs) and financial holding companies (FHCs) that file the form FR Y-9C and have (1) \$5 billion or more in assets in at least one year in the sample period and (2) a record in the New York Federal Reserve’s database that matches BHC identifiers (RSSD numbers) to permcos in CRSP. In addition, I select a random sample of 50 BHCs and FHCs with between \$1 billion and \$5 billion in assets at least one year of the sample period, that have a permco match in the New York Federal Reserve’s database, and for which there are supervisory exam documents present in the Federal Reserve CDTR database. Data about these BHCs and FHCs are then gathered from a variety of sources that I describe below.

Bank culture as communicated on corporate websites: I use the Wayback Machine, an internet achieving service, to construct an annual time-series of cultural values based on the first full snapshot of the website recorded in a calendar year. Website descriptions are coded to identify the existence of eight individual cultural values. Six of these values align with well-established delineations of cultural values: adaptability, collaboration, customer-orientation, detail-orientation, integrity, and results-orientation (O’Reilly, Chatman, and Caldwell, 1991; Chatman, Caldwell, O’Reilly, and Doerr, 2014). The seventh cultural value is labeled “community-orientation,” and reflects the notion of caring for the community through social and environmental responsibility, good citizenship, respect, and diversity. Adding this seventh value allows for a full mapping into the corporate values identified by Guiso, Sapienza, and Zingales (2015). The eighth cultural value, “risk-orientation,” which reflects a standardized approach to risk management that is often mechanical rather than a flexible and more holistic view of a bank’s complex exposures. This value reflects the

unique risk cultures that banks develop (Stulz, 2014; Pan, Siegel, and Wang, 2017).

The cultural values variables are coded as -1, 0, or 1 to reflect whether websites describe a given value in positive or negative terms. For example, a bank with a strong team-oriented or cooperative culture receives a score of one for the “collaboration” value, while a bank with a competitive or every-employee-for-himself culture receives a score of negative one. Banks that do not mention collaboration receive a score of zero. Similarly, a bank that is innovative or where employees are resourceful in finding solutions when problems arise receives a score of one for the “adaptability” value, while a bank with a lot of red tape and bureaucracy that works against adaptability receives a score of negative one for this cultural value.

Bank performance and characteristics: Bank holding companies file quarterly statements of financial conditions on their FR Y9-C forms, which contain detailed financial data. I use data from these FR Y9-C, Compustat, and CRSP to construct a variety of bank performance measures. The performance measures include return on equity (ROE), profitability, return volatility, idiosyncratic risk, leverage ratio, risk-adjusted capital ratios, nonperforming loans, and growth by loan type (commercial and industrial, commercial real estate, and residential real estate), and growth in risk-weighted assets. The measures of other attributes include: bank size, Tier-1 capital ratio, investment banking income-to-total income, trading-income-to-total income, SG&A, intangible assets, goodwill, and M&A activity.

Governance of banks: I match the bank data to BoardEx data, Execucomp data, Thomson Reuters S34 file data, and Institutional Shareholder Services (ISS) data. ISS data provide information about banks’ corporate charters that I can use to calculate the E-index. BoardEx provides detailed information about members of boards of directors, which allows me to calculate the percentage of independent directors. Execucomp provides information on corporate ownership and CEO tenure. The Thomson Reuters S34 file allows me to calculate institutional ownership.

B. Descriptive statistics

I present summary statistics for the key culture variables in [Table I](#). The panel data comprise one observation for each bank-year combination and span 2004-2020. The summary statistics for the cultural values suggest that community-orientation (77%), customer-orientation (64%), results-orientation (51%), and integrity (44%) are the most commonly described cultural values, whereas adaptability (29%) is the least likely to be mentioned. Cultural values do change over time, with the average firm experiencing three changes in values over the sample period from 2004-2020. Given that this timeframe covers the financial crisis and the advent of the FinTech era, it is perhaps unsurprising that risk-orientation (57% change) and adaptability (56% change) are the two values most likely to change, while community-orientation (25%) and customer-orientation (30%) are the least likely to change.

It is worth contrasting my sample with [Guiso, Sapienza, and Zingales \(2015\)](#) who collect data on S&P 500 companies' webpages as of June 2011 and find that "85% of S&P companies have a section (sometimes even two) dedicated to—what they call—"corporate culture," i.e., the principles and values that should inform the behavior of all the firms' employees." Comparing summary statistics for the two samples, I match up for the percentage of firms describing their cultural values but differ with regards to the exact set of values described, likely a reflection of my focus on banks. Specifically, I find that 89% of banks describe cultural values in their career section and 66% explicitly have a website section about culture. These two website themes are likely the closest match to what informs all of the firms' employees. Although [Guiso, Sapienza, and Zingales \(2015\)](#) provide an example from an investor prospectus, so they may have been even more inclusive. [Guiso et al. \(2015\)](#) find that the most commonly advertised cultural value is innovation (80%) followed by respect and integrity (70%). Banks rarely advertise innovation (29%) but often advertise respect (77%) and to a lesser extent integrity (44%).

What I find most striking is that the cultural values described on the bank websites

often are inconsistently described within a given year across various website themes (about us, careers, investor relations, community, and values). On average, banks have three website themes that describe five cultural values. Customer-orientation (73%) and integrity (70%) are the two most likely values to be inconsistently described across themes. [Table II](#) further documents how cultural values vary across website themes. [Table II](#) shows that integrity is the cultural value most likely to be described in the investor relations theme (67%), yet it is only mentioned 34% of the time in the careers theme. In contrast, the cultural value of adaptability is described in the corporate values theme 36% of the time but is only mentioned in the investor relations theme 16% of the time. The two values that are most likely to be described consistently across website themes are community-orientation and detail-orientation.

[Table III](#) summarizes differences in characteristics between banks that consistently versus inconsistently describe their cultures. I identify the two subsamples by using an indicator variable for whether banks are above or below the median count of inconsistently described cultural values. I run a simple univariate comparison of the mean values of various bank characteristics between the two subsamples. Given that the analysis produces simple univariate differences and does not control for differences in other bank characteristics, these tests are best viewed as descriptive.

As shown in [Table III](#), the banks that code-switch tend to be larger in size, have more employees, are more likely to be in the S&P 500, and are more likely to be designated by regulators as systemically important banks. In comparison to studies examining risk management ([Ellul and Yerramilli, 2013](#)), the difference in the size of the banks in the two subsamples are much smaller (only about 1/5 the size). Given that it is harder to manage large banks and to coordinate across subgroups in such banks, the small size differences seem plausible. In line with the view that consistent cultural messaging is more difficult in larger firms, banks that recently went through a large M&A deal and that pay their CEOs more

(a proxy for the marginal cost of managing) are more likely to have inconsistently described cultural values.

In regard to other governance and ownership characteristics, the results are mixed. For example, the banks with more inconsistently described culture exhibit no difference in institutional ownership or changes in institutional ownership. Similarly, there are no differences in CEO tenure or CEO replacement rates. I find a small yet statistically significant difference in board independence. A larger portion of the boards of banks with more consistently described cultural values are made up of independent directors. In contrast to independence, which is generally viewed as stronger governance, the banks with consistently described cultural values also have a higher E-index score (Bebchuk, Cohen, and Ferrell, 2009). This result suggests that banks with consistently described culture overall have weaker corporate governance. The idea that governance can either reinforce or work against the corporate culture is certainly consistent with previous empirical findings (Guiso, Sapienza, and Zingales, 2015).

A striking finding from these analyses is a 10 percentage point increase in the consistency with which banks describe their cultural values in the post-crisis era. Given the additional focus of bank supervisors on culture after the crisis, this finding suggests meaningful change in the way culture is communicated to various stakeholders. Finally, looking at the balance sheet composition of banks and their relative performance, I find no meaningful statistical differences across banks in regard to their annual stock returns, volatility, Tier-1 capital ratios, nonperforming loans, or reliance on off-balance-sheet activities as proxied by non-interest income relative to income. I find some evidence to suggest banks with inconsistently described cultural values have fewer deposits relative to assets.

C. External validation of the data

As is shown in (Graham et al., 2018), inconsistent cultural communication is associated with an ineffective culture as perceived by corporate executives and reported in surveys. Nevertheless, it is important to understand the extent to which this sample is externally valid. As such, I compare this sample with other known proxies for an effective culture including the Glassdoor culture rating and net promoter score. For this alternative sample, I see a strong correlation between the number of cultural values that are inconsistently communicated and the Glassdoor rating as well as the net promoter score.

IV. Results

A. Bank culture and performance

The next set of tests explore whether banks that communicate their culture consistently to stakeholders have better financial performance. Table IV shows estimates from both within-bank (columns (1) and (2)) and cross-sectional regressions (columns (3) and (4)). The main dependent variable for these tests is ROE. In column (1) and (3), the key explanatory variable is the number of cultural values that are described inconsistently across website themes in a given bank-year. In column (2) and (4), the key explanatory variables are the individual cultural values that are described inconsistently. Each specification includes cultural value controls, bank controls, and time fixed effects are included. The bank controls include leverage, market-to-book, retained earnings-to-assets, deposits-to-assets, Tier 1-Capital-to-assets, bank size, and log(employees). Test statistics are derived from standard errors that are robust to heteroskedasticity and clustered by bank.

The multivariate regression estimates reported in Table IV reveal a clear and statistically significant negative relationship between communicating culture inconsistently and

ROE. These results hold over time within-bank and in the cross-section. The results in each case are significant at the 95th percentile, suggesting that they are robust to controlling for unobserved heterogeneity across banks. In regard to inconsistent communication in the individual cultural values, detail-orientation, collaboration, and risk-orientation display a statistically significant negative relationship with ROE. Such findings are consistent with the intrinsic motivation theory (Bénabou and Tirole, 2003), which suggests that trust, coordination among employees, and collaboration are among the most important cultural values and norms for increasing employee effort.

B. Results from financial crisis

I next explore whether more consistent cultural communication before the financial crisis is associated with better performance during the crisis by examining annualized returns for banks during the crisis. An individual bank return is defined using buy-and-hold returns from July 1, 2007 to December 31, 2008. Although the crisis did not end in December 2008, this time period is consistent with the calculation used in Fahlenbrach, Prilmeier, and Stulz (2012) and, in part, mitigates the potentially confounding effect associated with uncertainty about whether banks would be nationalized. Similar to the results reported in Fahlenbrach, Prilmeier, and Stulz (2012), the annualized returns for my sample of 163 public banks over this period decreased by an average of 35%, and not all banks survived until December 2008.

The key explanatory variable for the financial crisis analysis is the bank’s pre-crisis consistency in how it communicates its cultural values. To ensure that pre-crisis cultural communication is reflected, all explanatory variables, including controls for bank characteristics, are from 2004 and 2005. In column (1) of Table V, the only explanatory variable is pre-crisis inconsistency. In column (2), bank and cultural value controls are added as explanatory variables. The bank controls include leverage, market-to-book, retained earnings-to-assets, deposits-to-assets, Tier 1-capital-to-assets, bank size, and log(employees). In column (3),

the following return controls are added: pre-crisis equity returns, beta, and volatility. In column (4), the key explanatory variable is the individual cultural values that are described inconsistently.

The link between crisis returns and pre-crisis cultural communication appears to be both economically and statistically significant. In the cross-section of banks, for each additional cultural value that is inconsistently communicated pre-crisis, there is an associated 2.8% lower return. This point estimate increases to 3.3% when additional controls are added and is significant at the 95th percentile. Relative to the sample mean for the annualized crisis return of -35%, this corresponds to a drop of about 10%.

For comparison, the economic magnitude is similar to that of a one-standard-deviation increase in leverage prior to the financial crisis. This test also closely relates to that of [Fahlenbrach, Prilmeier, and Stulz \(2012\)](#), who use a bank’s stock return performance during the 1998 crisis as a proxy for risk culture. As with their culture proxy, inconsistent cultural communication accounts for about half of the economic magnitude as their measure does. Given that culture is often multi-faceted and communication is just one channel through which culture can be strengthened, the economic magnitude of communication that I find seems plausible.

Column (4) of [Table V](#) reports the coefficient estimates for inconsistency in communication of the specific cultural values. Detail-orientation stands out as economically and statistically important. The importance of detail-orientation also emerged over the longer sample period, both within bank and in the cross-section of banks. The cultural value of detail-orientation is associated with banks that communicate that they value attention to detail, quality, precision, and an analytic approach to problem-solving.

Finally, I explore whether more consistent cultural communication before the pandemic is associated with better performance during the crisis by examining annualized returns for banks during the COVID-19 pandemic. An individual bank return is defined using buy-

and-hold returns in March 2020. Although the pandemic did not end in March 2020, this time period is consistent with the rapid decline in the stock market and, in part, mitigates the potentially confounding effect associated with uncertainty about additional stimulus. [Table VI](#) reports the coefficient estimates for code-switching and the pandemic. Similar to the great financial crisis, banks that code-switched prior to the pandemic performed worst during March 2020.

C. Results from unforeseen events

Given that the financial crisis involved both potentially foreseen and unforeseen events, it is an excellent laboratory for testing a key aspect of theory related to corporate culture. [Kreps \(1990\)](#) argues that corporate culture works in unforeseen events by giving hierarchical inferiors an idea before an event occurs of how the organization will react. At the same time, [Foote, Gerardi, and Willen \(2012\)](#) argues brokers did not know that the mortgages they were issuing were hardwired to explode; rather, many brokers had distorted beliefs about the growth in home values.

The central idea that culture matters most in events with uncertainty ties back to the private MBSs. Unlike other mortgage loans that were guaranteed by government-sponsored enterprises (GSEs), the decision to generate and retain private MBSs had no precedent. As such, the employees making these decisions likely did not have explicit contingencies in their employment contracts about what to do. In theory, these are the instances when the implicit rules embedded in the cultural values espoused by bank leadership should help guide employees to make decisions consistent with the bank’s cultural values.

I test this hypothesis by examining private MBS and traditional bank loans. Given the high uncertainty associated with private MBSs, if consistent cultural communication matters, it should matter relatively more for private MBSs than for traditional bank loans. [Table VII](#) reports coefficient estimates for pre-crisis cultural inconsistency when the main dependent

variable is average private MBS exposure from 2007 to 2008. The key result is that, for each additional cultural value that is miscommunicated prior to the crisis, a bank was exposed to an additional \$0.6 to \$0.8 billion in private MBSs. This result is statistically significant by itself as well as when controls for bank characteristics and pre-crisis return characteristics are added to the regressions. Moreover, the economic magnitude is substantial, suggesting cultural miscommunication is one of the key explanatory variables driving private MBS holdings.

By comparison, [Table VIII](#) reports coefficient estimates for pre-crisis cultural inconsistency when the dependent variable is average bad loan concentration from 2007 to 2008. In stark contrast to private MBS holdings, the concentration of bad loans is a tight zero in every specification. Taken together, the evidence suggests a key mechanism linking culture to performance is its ability to align employees' expectations before an event occurs as to how the organization would prefer employees to react. Note, however, that when risk-orientation is miscommunicated, the bank holds more bad loans. As in prior research, this result suggests the special role that risk management plays in preventing inappropriate risk and suggests that banks that have executives who communicate their culture more consistently, especially in regard to risk, can enhance performance even in traditional markets.

D. Robustness tests

The results so far indicate that banks with consistently communicated cultural values perform better, especially when unforeseen situations arise. But given that the choice of how to communicate culture itself is endogenous, it could be the case that both performance and cultural communication are jointly determined by some unobserved time-varying omitted variable that is not captured by my bank characteristics, cultural characteristics, or time or bank fixed effects. For example, an unobserved technological change that alters information production within the bank could cause it to simultaneously change its cultural

communication and improve ROE. While the test comparing private MBS holdings with standard loans lends credence to the cultural communication channel, it is nevertheless important to rule out such alternatives. Appendix C provides additional robustness tests that help to rule out alternative hypotheses.

E. Conclusion

This study systematically examines how code-switching on the communication of key cultural values to different stakeholders relates to performance. I propose a new measure of code-switching based on the way values are communicated to different stakeholders on corporate websites over time. I then develop a stylized model that shows an instructive case in which executives will optimally select a cultural narrative for the rank-and-file employees that differs from their own cultural narrative. Namely, the executives will tell a narrative to employees about the culture that generates personal gain from the overall output of their work contributing to a purpose-driven organization, and this narrative will attract employees to the organization despite relatively low-powered pay incentives for rank-and-file employees. In contrast, the executives always optimally choose to high-powered incentives leading to inconsistent cultural communication. In good times, the mismatch minimizes costs of operating a bank but in bad times, both employees and rational, competitive investors update on the narrative and distribution of good tasks, which in turn reduces effort, leads to competitive selling, and amplifies the poor performance in bad times.

Thus, a second key contribution of this study is to use this measure of code-switching to understand its role in times of high uncertainty. Specifically, I examine bank performance during the 2007 and 2008 financial crisis as well as the most recent pandemic. I find a strong negative association between inconsistent cultural communication and both crisis and pandemic returns. Finally, I re-examine banks' exposures to private MBS holdings, whose values were uncertain in 2007 and 2008. This reveals that cultural inconsistency matters

more for exposure to private MBSs, a decision without precedent, than for nonperforming loans. Taken together, the evidence suggests that a key mechanism linking cultural narratives and performance is rank-and-file employees' updating how they allocate effort to tasks of uncertain type.

While other mechanisms likely also link culture with performance, I find evidence supporting the often-postulated expectation alignment mechanism. This finding has important implications for reforming culture in the financial services as well as broader considerations for goals such as financial stability and optimal transparency. To the extent that banks and banking rely on trust from all stakeholders, more needs to be done to restore the public's trust in the financial system and consistent communication appears to be a key metric to evaluate in achieving this goal. Finally, it is important to note that there continue to be meaningful debates about transparency's role in preventing bank runs and fire sales by investors in moments of crisis for the banking industry. A key premise is that the quality of assets affects the behavior of the depositors. My research augments this research by showing that quality of intangible assets may be equally important. Given that the honesty with which the cultural values are communicated to different stakeholders (i.e., not-codeswitching) is revealed in bad times, such revelation amplifies the need for reliable, transparent data on the quality of assets at exactly that time.

REFERENCES

- Acharya, Viral V, III Engle, Robert F, and Sascha Steffen, 2021, Why did bank stocks crash during covid-19?, Working Paper 28559, National Bureau of Economic Research.
- Adams, Renée, and Hamid Mehran, 2012, Bank board structure and performance: Evidence for large bank holding companies, *Journal of Financial Intermediation* 21, 243–267.

- Akerlof, George A., and Rachel E. Kranton, 2005, Identity and the economics of organizations, *Journal of Economic Perspectives* 19, 9–32.
- Akerlof, Robert, Niko Matouschek, and Luis Rayo, 2020, Stories at work, *American Economic Review Papers & Proceedings* .
- Algan, Yann, and Pierre Cahuc, 2013, Trust and growth, *Annual Review of Economics* 5, 521–549.
- Assaf, Albert, Allen N. Berger, Raluca A. Roman, and Efthymios G. Tsionas, 2017, Does efficiency help banks survive and thrive during financial crises?, unpublished working paper.
- Baker, George, Robert Gibbons, and Kevin J. Murphy, 2002, Relational contracts and the theory of the firm, *Quarterly Journal of Economics* 117, 39–84.
- Bandiera, Oriana, Renata Lemos, Andrea Prat, and Raffaella Sadun, 2018, Managing the family firm: Evidence from CEOs at work, *Review of Financial Studies* 31, 1605–1653.
- Bebchuk, Lucian, Alma Cohen, and Allen Ferrell, 2009, What matters in corporate governance?, *Review of Financial Studies* 22, 783–827.
- Bénabou, Roland, and Jean Tirole, 2003, Intrinsic and extrinsic motivation, *Review of Economic Studies* 70, 489–520.
- Bertrand, Marianne, and Antoinette Schoar, 2003, Managing with style: The effect of managers on firm policies, *Quarterly Journal of Economics* 118, 1169–1208.
- Bloom, Nicholas, Raffaella Sadun, and John Van Reenen, 2012, Americans do IT better: US multinationals and the productivity miracle, *American Economic Review* 102, 167–201.

- Bloom, Nicholas, and John Van Reenen, 2007, Measuring and explaining management practices across firms and countries, *Quarterly Journal of Economics* 122, 1351–1408.
- Bolton, Patrick, Markus K. Brunnermeier, and Laura Veldkamp, 2013, Leadership, coordination, and corporate culture, *Review of Economic Studies* 80, 512–537.
- Campbell, John Y., Martin Lettau, Burton G. Malkiel, and Yexiao Xu, 2001, Have individual stocks become more volatile? an empirical exploration of idiosyncratic risk, *Journal of Finance* 56, 1–43.
- Chatman, Jennifer A., David F. Caldwell, Charles A. O’Reilly, and Bernadette Doerr, 2014, Parsing organizational culture: How the norm for adaptability influences the relationship between culture consensus and financial performance in high-technology firms, *Journal of Organizational Behavior* 35, 785–808.
- Chen, Shuping, Dawn Matsumoto, and Shiva Rajgopal, 2011, Is silence golden? An empirical analysis of firms that stop giving quarterly earnings guidance, *Journal of Accounting and Economics* 51, 134–150.
- Cheng, Ing-Haw, Harrison Hong, and José A. Scheinkman, 2014, Yesterday’s heroes: Compensation and risk at financial firms, *Journal of Finance* 70, 839–879.
- Cox, Josue, Daniel L Greenwald, and Sydney C Ludvigson, 2020, What explains the covid-19 stock market?, Working Paper 27784, National Bureau of Economic Research.
- Crémer, Jacques, 1993, Corporate culture and shared knowledge, *Industrial and Corporate Change* 351–386.
- Crémer, Jacques, Luis Garicano, and Andrea Prat, 2007, Language and the theory of the firm, *Quarterly Journal of Economics* 122, 373–407.

- Egan, Mark, Gregor Matvos, and Amit Seru, 2019, The market for financial adviser misconduct, *Journal of Political Economy* 127, 233–295.
- Ellul, Andrew, and Vijay Yerramilli, 2013, Stronger risk controls, lower risk: Evidence from U.S. bank holding companies, *Journal of Finance* 68, 1757–1803.
- Enrich, David, 2015, Libor’s mastermind: The unraveling of Tom Hayes, convicted in a global financial scandal, *Wall Street Journal* September 13.
- Fahlenbrach, Rüdiger, Robert Prilmeier, and René M. Stulz, 2012, This time is the same: Using bank performance in 1998 to explain bank performance during the recent financial crisis, *Journal of Finance* 67, 2139–2185.
- Fahlenbrach, Rüdiger, and René M. Stulz, 2011, Bank CEO incentives and the credit crisis, *Journal of Financial Economics* 99, 11–26.
- Fernández, Raquel, 2011, *Handbook of Social Economics*, chapter Does Culture Matter?, 481–510 (North-Holland).
- Fiordelisi, Franco, Jacopo Raponi, and P. Raghavendra Rau, 2018, Corporate culture and enforcement actions in banking, unpublished working paper.
- Foot, Christopher L., Kristopher S. Gerardi, and Paul S. Willen, 2012, *Rethinking the Financial Crisis*, chapter Why Did So Many People Make So Many Ex Post Bad Decisions? The Causes of the Foreclosure Crisis, 136 (New York: Russell Sage Foundation).
- G30, 2015, Banking conduct and culture: A call for sustained and comprehensive reform, *Group of Thirty Research Papers*.
- Gibbons, Robert, 1998, Incentives in organizations, *Journal of Economic Perspectives* 12, 115–132.

- Gibbons, Robert, and Rebecca Henderson, 2013, *Handbook of Organizational Economics*, chapter What Do Managers Do? Exploring Persistent Performance Differences among Seemingly Similar Enterprises, 680–731 (Princeton University Press).
- Gibbons, Robert, and Laurence Prusak, 2020, Stories as knowledge in organizations, *American Economic Review P&P* .
- Goldstein, Matthew, and Alexandra Stevenson, 2018, 1MDB case in Malaysia deepens Goldman’s crisis, *New York Times* December 17.
- Gompers, Paul, Joy Ishii, and Andrew Metrick, 2003, Corporate governance and equity prices, *Quarterly Journal of Economics* 118, 107–156.
- Gorton, Gary B, and Alexander K Zentefis, 2020, Corporate culture as a theory of the firm, Working Paper 27353, National Bureau of Economic Research.
- Graham, John R., Jillian Grennan, Campbell R. Harvey, and Shiva Rajgopal, 2018, Corporate culture: Evidence from the field, Working Paper 23255, National Bureau of Economic Research.
- Graham, John R., Campbell R. Harvey, and Manju Puri, 2013, Managerial attitudes and corporate actions, *Journal of Financial Economics* 109, 103–121.
- Grennan, Jillian, 2018, A corporate culture channel: How increased shareholder governance decreases firm value, unpublished working paper.
- Grennan, Jillian, 2019, Decomposing the value of corporate culture, unpublished working paper.
- Guiso, Luigi, Paola Sapienza, and Luigi Zingales, 2004, The role of social capital in financial development, *American Economic Review* 94, 526–556.

- Guiso, Luigi, Paola Sapienza, and Luigi Zingales, 2006, Does culture affect economic outcomes?, *Journal of Economic Perspectives* 20, 23–48.
- Guiso, Luigi, Paola Sapienza, and Luigi Zingales, 2008, Social capital as good culture, *Journal of the European Economic Association* 6, 295–320.
- Guiso, Luigi, Paola Sapienza, and Luigi Zingales, 2015, The value of corporate culture, *Journal of Financial Economics* 117, 60–76.
- Hermalin, Benjamin, 2001, *The International Handbook of Organizational Culture and Climate*, chapter Economics and Corporate Culture (New York: John Wiley & Sons).
- Holmstrom, Bengt, and Paul Milgrom, 1991, Multitask principal-agent analyses: Incentive contracts, asset ownership, and job design, *Journal of Law, Economics, & Organization* 7, 24–52.
- John, Kose, Sara De Masi, and Andrea Paci, 2016, Corporate governance in banks, *Corporate Governance: An International Review* 24, 303–321.
- Karolyi, G. Andrew, 2016, The gravity of culture for finance, *Journal of Corporate Finance* 41, 610–625.
- Kreps, David M., 1990, *Corporate culture and economic theory*, 90–143, *Political Economy of Institutions and Decisions* (Cambridge University Press).
- La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert W. Vishny, 1997, Trust in large organizations, *American Economic Review* 87, 333–338.
- Lazear, Edward, 1995, *Trends in Business Organization: Do Participation and Cooperation Increase Competitiveness?*, chapter Corporate Culture and Diffusion of Values (Tubingen: Mohr).

- Li, Kai, Sing Liu, Feng Mai, and Tengfei Zhange, 2021, The role of corporate culture in bad times: Evidence from the covid-19 pandemic .
- Lins, Karl V., Henri Servaes, and Ane Tamayo, 2017, Social capital, trust, and firm performance: The value of corporate social responsibility during the financial crisis, *Journal of Finance* 72, 1785–1824.
- Lo, Andrew W., 2016, The Gordon Gekko effect: The role of culture in the financial industry, *Economic Policy Review* 17–42.
- Macaulay, Stewart, 1963, Non-contractual relations in business: A preliminary study, *American Sociological Review* 28, 55–67.
- North, Douglass C., 1991, Institutions, *Journal of Economic Perspectives* 5, 97–112.
- O'Reilly, Charles A., Jennifer Chatman, and David F. Caldwell, 1991, People and organizational culture: A profile comparison approach to assessing person-organization fit, *Academy of Management Journal* 34, 487–516.
- O'Reilly, Charles A., and Jennifer A. Chatman, 1996, *Research in organizational behavior: An annual series of analytical essays and critical reviews*, chapter Culture as social control: Corporations, cults, and commitment., 157–200 (Elsevier/JAI Press).
- Pan, Yihui, Stephan Siegel, and Tracy Yue Wang, 2017, Corporate risk culture, *Journal of Financial and Quantitative Analysis* 52, 2327–2367.
- Reckard, E. Scott, 2013, Wells Fargo's pressure-cooker sales culture comes at a cost, *Los Angeles Times* December 21.
- Servaes, Henri, and Ane Tamayo, 2017, The role of social capital in corporations: A review, *Oxford Review of Economic Policy* 33, 201–220.

- Song, Fenghua, and Anjan V. Thakor, 2018, Bank culture, *Journal of Financial Intermediation* forthcoming.
- Stulz, René M., 2014, Governance, risk management, and risk-taking in banks, Working Paper 20274, National Bureau of Economic Research.
- Stulz, René M., and Rohan Williamson, 2003, Culture, openness, and finance, *Journal of Financial Economics* 70, 313–349.
- Thakor, Anjan, 2014, Bank capital and financial stability: An economic trade-off or a Faustian bargain?, *Annual Review of Financial Economics* 6, 185–223.
- Thakor, Anjan, 2016, Corporate culture in banking, *The Economic Policy Review* 1–12, Federal Reserve Bank of New York.
- Thakor, Richard T., and Robert C. Merton, 2018, Trust in lending, Working Paper 24778, National Bureau of Economic Research.
- Van den Steen, Eric, 2010, Culture clash: The costs and benefits of homogeneity, *Management Science* 56, 1718–1738.
- Weber, Max, 1930, *The Protestant Ethic and the Spirit of Capitalism* (Harper Collins, New York).
- Zingales, Luigi, 2015, The “cultural revolution” in finance, *Journal of Financial Economics* 117, 1–4, NBER Conference on the Causes and Consequences of Corporate Culture.

Table I

Corporate culture summary statistics

This table shows summary statistics of the values that comprise corporate culture as extracted from bank websites. The sample consists of the 250 largest banks as well as a random sample of 50 smaller banks.

	Adaptability	Collaboration	Community	Customer	Detail	Integrity	Results	Risk
Panel A. Values extracted from website	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
-1 = Described value is opposite	6.0%	0.2%	0.0%	0.1%	0.1%	0.0%	0.0%	8.9%
0 = No mention of value	71.2%	66.0%	23.0%	36.1%	65.8%	56.0%	49.0%	69.6%
1 = Indicated this value	22.8%	33.8%	77.0%	63.9%	34.2%	44.0%	51.0%	21.6%
Value described inconsistently in a bank-year	62.9%	66.3%	57.0%	73.0%	54.2%	69.9%	65.6%	65.2%
Value changes over time	55.5%	50.2%	24.6%	30.2%	41.5%	44.9%	38.5%	57.1%
Observations (bank-year-theme)	8,267							
Unique banks	301							
	Obs. level	Obs.	Avg.	Std. Dev.	Min.	Median	Max.	
Panel B. Additional details	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
Number of website themes	Bank-year	2,920	2.8	1.2	1.0	3.0	5.0	
Number of values extracted from website	Bank-year	2,920	5.4	2.2	0.0	6.0	8.0	
Number of values described inconsistently	Bank-year	2,920	5.1	2.2	0.0	5.0	8.0	
Number of values that change over time	Bank-year	301	3.4	2.4	0.0	3.0	8.0	

Table II

Corporate culture by website theme

This table shows summary statistics of the values that comprise corporate culture as extracted from bank websites. The sample consists of the 250 largest banks as well as a random sample of 50 smaller banks.

Website theme	Adaptability (1)	Collaboration (2)	Community (3)	Customer (4)	Detail (5)	Integrity (6)	Results (7)	Risk (8)
<u>About us</u>								
-1 = Described value is opposite	9.8%	0.2%	0.0%	0.0%	0.1%	0.0%	0.0%	12.0%
0 = No mention of value	66.1%	75.1%	29.1%	16.7%	60.6%	62.9%	48.7%	64.7%
1 = Indicated this value	24.1%	24.7%	70.8%	83.3%	39.3%	37.1%	51.3%	23.4%
Observations	2,185							
Unique banks	271							
<u>Careers</u>								
-1 = Described value is opposite	2.5%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	10.9%
0 = No mention of value	72.1%	54.6%	17.9%	43.1%	74.9%	66.1%	60.4%	80.7%
1 = Indicated this value	25.4%	45.3%	82.1%	56.9%	25.1%	33.9%	39.6%	8.5%
Observations	1,939							
Unique banks	267							
<u>Community</u>								
-1 = Described value is opposite	2.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.4%
0 = No mention of value	86.4%	73.5%	3.5%	67.8%	78.7%	76.8%	66.2%	87.2%
1 = Indicated this value	11.6%	26.5%	96.5%	32.2%	21.3%	23.2%	33.8%	10.4%
Observations	1,327							
Unique banks	219							
<u>Investor relations</u>								
-1 = Described value is opposite	8.7%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	1.8%
0 = No mention of value	75.4%	71.1%	24.1%	41.0%	58.6%	33.1%	38.4%	61.3%
1 = Indicated this value	15.9%	28.5%	57.9%	59.0%	41.4%	66.9%	61.6%	37.0%
Observations	1,474							
Unique banks	208							
<u>Values</u>								
-1 = Described value is opposite	5.9%	0.2%	0.0%	0.0%	0.4%	0.0%	0.0%	15.1%
0 = No mention of value	58.5%	54.8%	18.9%	21.1%	56.0%	34.6%	27.9%	53.1%
1 = Indicated this value	35.6%	44.9%	81.2%	78.9%	43.6%	65.4%	72.1%	31.7%
Observations	1,342							
Unique banks	199							

Table III

Determinants of code-switching

This table presents a univariate comparison of bank characteristics between banks with high inconsistency versus those with low inconsistency. I define the dummy variable *high inconsistency* to identify, in each year, banks whose count of cultural values explained inconsistently across website themes is greater than the median count across all banks during the sample. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Inconsistently Described Culture (1)	Consistently Described Culture (2)	Difference (3)
Size	16.02	15.74	0.28***
Log(employees)	1.31	1.13	0.18***
Ind. S&P 500	0.18	0.14	0.04**
Ind. Systemically Important Bank	0.03	0.01	0.02**
Ind. Post-Crisis	0.53	0.63	-0.10***
Annual Return	0.6%	0.7%	0.00
Daily Return Volatility	36.4%	35.6%	0.01
(Deposits/Assets)	0.71	0.75	-0.03***
(Tier-1 Capital/Assets)	0.09	0.09	0.00
(Bad Loans/Assets)	0.01	0.01	0.00
(Noninterest Income/Income)	0.25	0.16	0.09
Institutional Ownership	90.3%	91.4%	-0.01
Change in Institutional Ownership	-2.2%	-0.5%	-0.02
Corporate Governance (E-index)	2.62	2.93	-0.31***
Board Independence	73%	77%	-0.04**
Ind. Change in CEO	0.12	0.11	0.02
CEO Tenure	8.10	8.06	0.05
Log(CEO Pay)	8.08	7.89	0.19***
Ind. Recent Large M&A Deal	0.18	0.14	0.04***

Table IV**Code-switching and bank performance**

This table reports the results of cross-sectional and within-bank regressions that examine whether banks that communicate their culture inconsistently can achieve higher return on equity (ROE). The sample period spans from 2004 to 2020 and include 263 unique banks. The bank controls include leverage, market-to-book, retained earnings-to-assets, deposits-to-assets, Tier1-capital-to-assets, bank size, and log(employees). The culture controls include controls for the total number of cultural values as well as the underlying direction of the cultural value. Test statistics (reported in parentheses) are derived from standard errors that are robust to heteroskedasticity and clustered at the bank holding company level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Dependent variable = ROE			
	Within-bank analysis		Cross-section analysis	
	(1)	(2)	(3)	(4)
Number of values described inconsistently	-0.008 (2.89)***		-0.003 (2.08)***	
Cultural values described consistently				
Adaptability		0.011 (1.45)		0.004 (1.45)
Collaboration		-0.061* (2.05)		-0.031 (1.55)
Community-orientation		-0.003 (0.14)		0.004 (0.14)
Customer-orientation		0.016 (1.60)		0.016 (1.60)
Detail-orientation		-0.019** (1.99)		-0.018** (2.15)
Integrity		-0.11 (1.56)		-0.009 (1.25)
Results-orientation		0.007 (0.58)		0.004 (0.58)
Risk-orientation		-0.014 (1.31)		-0.017* (1.82)
Bank controls	Y	Y	Y	Y
Bank fixed effects	Y	Y	N	N
Time fixed effects	Y	Y	Y	Y
Other culture controls	Y	Y	Y	Y
R-squared	35%	35%	25%	26%
Obsevation	2,977	2,977	2,977	2,977

Table V**Code-switching and crisis performance**

This table reports the results of cross-sectional regressions that examine whether banks that communicate their culture inconsistently pre-crisis fared better during the crisis years. Pre-crisis culture is measured from 2004 to 2005 and crisis returns from July 1, 2007 to December 31, 2008. The bank controls include leverage, market-to-book, retained earnings-to-assets, deposits-to-assets, Tier1-capital-to-assets, bank size, and log(employees). Additional return controls include pre-crisis returns, pre-crisis beta, and pre-crisis volatility. The culture controls include controls for the total number of cultural values as well as the underlying direction of the cultural value. Test statistics (reported in parentheses) are derived from standard errors that are robust to heteroskedasticity and clustered at the bank holding company level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Dependent variable = July 2007 to December 2008 returns			
	(1)	(2)	(3)	(4)
Number of values described inconsistently	-0.028 (1.85)*	-0.033 (2.00)**	-0.029 (1.98)**	
<i><u>Cultural values described inconsistently</u></i>				
Adaptability				0.014 (0.14)
Collaboration				-0.004 (0.05)
Community-oriented				0.127 (1.61)
Customer-orientation				-0.018 (0.22)
Detail-orientated				-0.178 (2.48)**
Integrity				0.06 (0.06)
Results-oriented				-0.074 (1.05)
Risk-oriented				-0.102 (0.93)
Bank controls	N	Y	Y	Y
Additional return controls	N	N	Y	N
Cultural value controls	N	Y	Y	Y
R-squared	2%	13%	22%	18%
Observations	300	266	264	266

Table VI**Code-switching and pandemic performance**

This table reports the results of cross-sectional regressions that examine whether banks that communicate their culture inconsistently before the pandemic fared better during the pandemic. The pre-pandemic culture is measured from 2018 to 2019 and pandemic returns focus on March 2020. The bank controls include pre-pandemic levels for leverage, market-to-book, retained earnings-to-assets, deposits-to-assets, Tier1-capital-to-assets, bank size, and log(employees). The culture controls include controls for the total number of cultural values as well as the underlying direction of the cultural value. Additional return controls include pre-pandemic returns, pre-pandemic beta, and pre-pandemic volatility. Test statistics (reported in parentheses) are derived from standard errors that are robust to heteroskedasticity and clustered at the bank holding company level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Dependent variable = March 2020 returns			
	(1)	(2)	(3)	(4)
Number of values described inconsistently	-0.044 (2.71)***	-0.054 (2.41)**	-0.049 (2.25)**	
Cultural values described consistently				
Adaptability				0.004 (1.45)
Collaboration				-0.031 (1.55)
Community-orientation				0.145* (1.78)
Customer-orientation				0.016 (1.60)
Detail-orientation				-0.178** (2.15)
Integrity				-0.009 (1.25)
Results-orientation				0.004 (0.58)
Risk-orientation				-0.205* (1.93)
Bank controls	N	Y	Y	Y
Additional return controls	N	N	Y	N
Other culture controls	N	Y	Y	Y
R-squared	3%	15%	25%	20%
Observations	260	260	260	260

Table VII**Code-switching and private MBS holdings**

This table reports the results of cross-sectional regressions that examine whether banks that communicate their culture inconsistently pre-crisis fared better during the crisis years in terms of their holdings in private mortgage-backed securities (MBSs). The dependent variable is the average private MBS holdings in 2007 and 2008, while the independent variables are measured in the pre-crisis period from January 1, 2004 to December 31, 2005. The bank controls include leverage, market-to-book, retained earnings-to-assets, deposits-to-assets, Tier1-capital-to-assets, bank size, and log(employees). Additional return controls include pre-crisis returns, pre-crisis beta, and pre-crisis volatility. Test statistics (reported in parentheses) are derived from standard errors that are robust to heteroskedasticity and clustered at the bank holding company level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Dependent variable = Private MBS holdings during financial crisis (\$ bil.)			
	(1)	(2)	(3)	(4)
Number of values described inconsistently	0.757 (2.12)**	0.579 (2.00)**	0.569 (1.89)**	
<i><u>Cultural values described inconsistently</u></i>				
Adaptability				1.37 (0.90)
Collaboration				-0.94 (0.62)
Community-oriented				2.43 (1.60)
Customer-orientation				-1.21 (0.76)
Detail-orientated				1.09 (0.81)
Integrity				0.06 (0.06)
Results-oriented				2.05 (1.67)*
Risk-oriented				-1.29 (0.97)
Bank controls	N	Y	Y	Y
Additional return controls	N	N	Y	N
Cultural value controls	N	Y	Y	Y
R-squared	3%	52%	53%	54%
Observations	174	170	170	170

Table VIII**Code-switching and nonperforming traditional loans**

This table reports the results of cross-sectional regressions that examine whether banks that communicate their culture inconsistently pre-crisis fared better during the crisis years in terms of their concentration of nonperforming loans. The dependent variable is the average percentage of nonperforming loans in 2007 and 2008, while the independent variables are measured in the pre-crisis period from 2004 to 2005. The bank controls include leverage, market-to-book, retained earnings-to-assets, deposits-to-assets, Tier1-capital-to-assets, bank size, and log(employees). Additional return controls include pre-crisis returns, pre-crisis beta, and pre-crisis volatility. Test statistics (reported in parentheses) are derived from standard errors that are robust to heteroskedasticity and clustered at the bank level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Dependent variable = Bad Loan Concentration			
	(1)	(2)	(3)	(4)
Number of values described inconsistently	0.000 (1.04)	0.000 (0.82)	0.000 (1.19)	
<i><u>Cultural values described inconsistently</u></i>				
Adaptability				-0.004 (1.35)
Collaboration				-0.001 (0.51)
Community-oriented				-0.005 (2.18)**
Customer-orientation				0.001 (0.77)
Detail-orientated				0.002 (1.09)
Integrity				0.001 (0.06)
Results-oriented				-0.002 (1.60)
Risk-oriented				0.006 (2.06)**
Bank controls	N	Y	Y	Y
Additional return controls	N	N	Y	N
Cultural value controls	N	Y	Y	Y
R-squared	0%	16%	18%	26%
Observations	250	243	236	243

Appendix A. List of Bank Holding Companies

1 1ST SOURCE CORPORATION	51 CARDINAL FINANCIAL CORPORATION
2 ACCESS NATIONAL CORPORATION	52 CASCADE FINANCIAL CORPORATION
3 ACNB CORPORATION	53 CASS INFORMATION SYSTEMS, INC.
4 ALABAMA NATIONAL BANCORPORATION	54 CATHAY GENERAL BANCORP
5 ALLY FINANCIAL INC.	55 CENTER FINANCIAL CORPORATION
6 AMCORE FINANCIAL, INC.	56 CENTERSTATE BANKS, INC.
7 AMEGY CORPORATION	57 CENTRAL PACIFIC FINANCIAL CORP.
8 AMERICAN EXPRESS COMPANY	58 CENTRAL VALLEY COMMUNITY BANCORP
9 AMERICAN NATIONAL BANKSHARES INC.	59 CENTRUE FINANCIAL CORPORATION
10 AMERIS BANCORP	60 CHARLES SCHWAB CORPORATION, THE
11 AMES NATIONAL CORPORATION	61 CHARTER ONE FINANCIAL, INC.
12 AMSOUTH BANCORPORATION	62 CHEMICAL FINANCIAL CORPORATION
13 APPALACHIAN BANCSHARES, INC.	63 CHEMUNG FINANCIAL CORPORATION
14 ARROW FINANCIAL CORPORATION	64 CHITTENDEN CORPORATION
15 ASSOCIATED BANC-CORP	65 CIT GROUP INC.
16 BANC OF CALIFORNIA, INC.	66 CITICORP
17 BANCFIRST CORPORATION	67 CITIGROUP INC.
18 BANCORPSOUTH, INC.	68 CITIZENS FINANCIAL GROUP, INC.
19 BANCTRUST FINANCIAL GROUP, INC.	69 CITIZENS REPUBLIC BANCORP, INC.
20 BANCWEST CORPORATION	70 CITY HOLDING COMPANY
21 BANK OF AMERICA CORPORATION	71 CITY NATIONAL CORPORATION
22 BANK OF COMMERCE HOLDINGS	72 CNB FINANCIAL CORPORATION
23 BANK OF HAWAII CORPORATION	73 COLONIAL BANCGROUP, INC., THE
24 BANK OF KENTUCKY FINANCIAL CORPORATION	74 COLUMBIA BANKING SYSTEM, INC.
25 BANK OF MARIN BANCORP	75 COMERICA INCORPORATED
26 BANK OF NEW YORK COMPANY, INC., THE	76 COMMERCE BANCORP, INC.
27 BANK OF NEW YORK MELLON CORPORATION	77 COMMERCE BANCSHARES, INC.
28 BANK OF THE OZARKS INC	78 COMMONWEALTH BANKSHARES, INC.
29 BANK ONE CORPORATION	79 COMMUNITY BANCORP
30 BANKFINANCIAL CORPORATION	80 COMMUNITY BANK SYSTEM, INC.
31 BANKUNITED, INC.	81 COMMUNITY BANKERS TRUST CORPORATION
32 BANNER CORPORATION	82 COMMUNITY FIRST BANKSHARES, INC.
33 BB&T CORPORATION	83 CONCORD EFS, INC.
34 BBVA COMPASS BANCSHARES, INC.	84 CORUS BANKSHARES, INC.
35 BENEFICIAL BANCORP, INC.	85 COUNTRYWIDE FINANCIAL CORPORATION
36 BERKSHIRE BANCORP INC.	86 CULLEN/FROST BANKERS, INC.
37 BERKSHIRE HILLS BANCORP, INC	87 CUSTOMERS BANCORP, INC
38 BNC BANCORP	88 CVB FINANCIAL CORP.
39 BOK FINANCIAL CORPORATION	89 DANVERS BANCORP, INC.
40 BOSTON PRIVATE FINANCIAL HOLDINGS, INC.	90 DEARBORN BANCORP, INC.
41 BROOKLINE BANCORP, INC.	91 DEUTSCHE BANK TRUST CORPORATION
42 BSB BANCORP INC.	92 DISCOVER FINANCIAL SERVICES
43 CADENCE FINANCIAL CORPORATION	93 DNB FINANCIAL CORPORATION
44 CAMDEN NATIONAL CORPORATION	94 DORAL FINANCIAL CORPORATION
45 CAPITAL BANK CORPORATION	95 EAGLE BANCORP, INC.
46 CAPITAL BANK FINANCIAL CORP.	96 EAST WEST BANCORP, INC.
47 CAPITAL CITY BANK GROUP, INC.	97 ENTEGRA FINANCIAL CORP.
48 CAPITAL CORP OF THE WEST	98 ENTERPRISE FINANCIAL SERVICES CORP
49 CAPITAL ONE FINANCIAL CORPORATION	99 F.N.B. CORPORATION
50 CAPITOL BANCORP LTD.	100 FARMERS NATIONAL BANC CORP.

101 FCB FINANCIAL HOLDINGS, INC.	151 HUDSON UNITED BANCORP
102 FIFTH THIRD BANCORP	152 HUMBOLDT BANCORP
103 FIRST BANCORP	153 HUNTINGTON BANCSHARES INCORPORATED
104 FIRST BANCSHARES, INC., THE	154 IBERIABANK CORPORATION
105 FIRST BUSEY CORPORATION	155 IMPERIAL CAPITAL BANCORP, INC
106 FIRST CITIZENS BANCSHARES, INC.	156 INDEPENDENT BANK CORP.
107 FIRST COMMONWEALTH FINANCIAL CORP.	157 INDEPENDENT BANK CORPORATION
108 FIRST COMMUNITY FINANCIAL PARTNERS, INC.	158 INDEPENDENT BANK GROUP, INC.
109 FIRST FINANCIAL BANCORP	159 INDEPENDENT BANKSHARES, INC.
110 FIRST FINANCIAL BANKSHARES, INC.	160 INTEGRA BANK CORPORATION
111 FIRST FINANCIAL CORPORATION	161 INTERMOUNTAIN COMMUNITY BANCORP
112 FIRST FINANCIAL NORTHWEST, INC.	162 INTERNATIONAL BANCSHARES CORPORATION
113 FIRST FINANCIAL SERVICE CORPORATION	163 INVESTORS BANCORP, INC.
114 FIRST HORIZON NATIONAL CORPORATION	164 INVESTORS FINANCIAL SERVICES CORP.
115 FIRST INTERNET BANCORP	165 IRWIN FINANCIAL CORPORATION
116 FIRST INTERSTATE BANCSYSTEM, INC.	166 JPMORGAN CHASE & CO.
117 FIRST M & F CORPORATION	167 KEYCORP
118 FIRST MARINER BANCORP	168 KNBT BANCORP INC.
119 FIRST MERCHANTS CORPORATION	169 LAKE LAND BANCORP, INC.
120 FIRST MIDWEST BANCORP, INC.	170 LCNB CORP.
121 FIRST NATIONAL BANKSHARES OF FLORIDA	171 LEGACYTEXAS FINANCIAL GROUP, INC.
122 FIRST NIAGARA FINANCIAL GROUP, INC.	172 LIVE OAK BANCSHARES, INC.
123 FIRST SECURITY GROUP, INC.	173 LOCAL FINANCIAL CORPORATION
124 FIRSTMERIT CORPORATION	174 M&T BANK CORPORATION
125 FLEETBOSTON FINANCIAL CORPORATION	175 MAIN STREET BANKS, INC.
126 FLUSHING FINANCIAL CORPORATION	176 MARSHALL & ILSLEY CORPORATION
127 FRANKLIN RESOURCES, INC.	177 MASSBANK CORP.
128 FULTON FINANCIAL CORPORATION	178 MB FINANCIAL, INC.
129 FVNB CORP.	179 MBNA CORPORATION
130 GERMAN AMERICAN BANCORP, INC.	180 MELLON FINANCIAL CORPORATION
131 GLACIER BANCORP, INC.	181 MERCANTILE BANKSHARES CORPORATION
132 GOLD BANC CORPORATION, INC.	182 METLIFE, INC.
133 GOLDMAN SACHS GROUP, INC., THE	183 MIDWESTONE FINANCIAL GROUP, INC.
134 GREAT WESTERN BANCORP, INC.	184 MONARCH FINANCIAL HOLDINGS, INC
135 GREATER BAY BANCORP	185 MORGAN STANLEY
136 GREENPOINT FINANCIAL CORP.	186 MUFG AMERICAS HOLDINGS CORPORATION
137 GUARANTY BANCORP	187 NATIONAL BANK HOLDINGS CORPORATION
138 GUARANTY BANCSHARES, INC.	188 NATIONAL BANKSHARES, INC.
139 HANCOCK HOLDING COMPANY	189 NATIONAL CITY CORPORATION
140 HARLEYSVILLE NATIONAL CORPORATION	190 NATIONAL COMMERCE FINANCIAL CORP
141 HEARTLAND FINANCIAL USA, INC.	191 NATIONAL PENN BANCSHARES, INC.
142 HERITAGE COMMERCE CORP	192 NBT BANCORP INC.
143 HERITAGE FINANCIAL CORPORATION	193 NEW YORK COMMUNITY BANCORP, INC.
144 HIBERNIA CORPORATION	194 NEWALLIANCE BANCSHARES, INC.
145 HILLTOP HOLDINGS, INC	195 NORTH FORK BANCORPORATION, INC.
146 HOME BANCSHARES, INC.	196 NORTHERN EMPIRE BANCSHARES
147 HOME FEDERAL BANCORP, INC.	197 NORTHERN TRUST CORPORATION
148 HOMESTREET, INC.	198 OAK HILL FINANCIAL, INC.
149 HOPE BANCORP, INC.	199 OFG BANCORP
150 HUDSON CITY BANCORP, INC.	200 OLD NATIONAL BANCORP

201 OLD SECOND BANCORP, INC.	251 SUN BANCORP, INC.
202 PACIFIC CAPITAL BANCORP	252 SUNTRUST BANKS, INC.
203 PACIFIC CONTINENTAL CORPORATION	253 SUSQUEHANNA BANCSHARES, INC.
204 PACWEST BANCORP	254 SVB FINANCIAL GROUP
205 PARK NATIONAL CORPORATION	255 SYNOVUS FINANCIAL CORP.
206 PENNS WOODS BANCORP, INC.	256 TALMER BANCORP INC.
207 PEOPLE'S MUTUAL HOLDINGS	257 TAYLOR CAPITAL GROUP, INC.
208 PEOPLE'S UNITED FINANCIAL, INC.	258 TCF FINANCIAL CORPORATION
209 PEOPLE'S UTAH BANCORP	259 TD BANK US HOLDING COMPANY
210 PEOPLES BANCORP OF NORTH CAROLINA, INC.	260 TEXAS CAPITAL BANCSHARES, INC.
211 PEOPLES COMMUNITY BANCORP, INC.	261 TEXAS REGIONAL BANCSHARES, INC.
212 PINNACLE FINANCIAL PARTNERS, INC.	262 TIB FINANCIAL CORP.
213 PNC FINANCIAL SERVICES GROUP, INC., THE	263 TOMPKINS FINANCIAL CORPORATION
214 POPULAR, INC.	264 TOWER BANCORP INC.
215 PORTER BANCORP, INC.	265 TRICO BANCSHARES
216 PRINCETON NATIONAL BANCORP, INC.	266 TRISTATE CAPITAL HOLDINGS, INC.
217 PRIVATEBANCORP, INC.	267 TROY FINANCIAL CORPORATION
218 PROSPERITY BANCSHARES, INC.	268 TRUSTMARK CORPORATION
219 PROVIDENT BANKSHARES CORPORATION	269 U.S. BANCORP
220 PROVIDENT FINANCIAL GROUP, INC.	270 U.S. TRUST CORPORATION
221 PROVIDENT FINANCIAL SERVICES, INC.	271 U.S.B. HOLDING CO., INC.
222 PULASKI FINANCIAL CORP.	272 UCBH HOLDINGS, INC.
223 R&G FINANCIAL CORPORATION	273 UMB FINANCIAL CORPORATION
224 RAYMOND JAMES FINANCIAL, INC.	274 UMPQUA HOLDINGS CORPORATION
225 RBC BANCORPORATION (USA)	275 UNION BANKSHARES CORPORATION
226 REGIONS FINANCIAL CORPORATION	276 UNION PLANTERS CORPORATION
227 REGIONS FINANCIAL CORPORATION	277 UNITED BANKSHARES, INC.
228 RENASANT CORPORATION	278 UNITED COMMUNITY BANKS, INC.
229 REPUBLIC BANCORP INC.	279 UNITED FINANCIAL BANCORP, INC.
230 RIGGS NATIONAL CORPORATION	280 UNIVEST CORPORATION OF PENNSYLVANIA
231 S & T BANCORP, INC.	281 UNIZAN FINANCIAL CORP.
232 SANDY SPRING BANCORP, INC.	282 VALLEY NATIONAL BANCORP
233 SANTANDER BANCORP	283 VIB CORP
234 SEACOAST BANKING CORPORATION OF FLORIDA	284 VIRGINIA COMMERCE BANCORP, INC.
235 SEACOAST FINANCIAL SERVICES CORPORATION	285 W HOLDING COMPANY, INC.
236 SERVISFIRST BANCSHARES, INC.	286 WACHOVIA CORPORATION
237 SIMMONS FIRST NATIONAL CORPORATION	287 WASHINGTON FEDERAL, INC.
238 SKY FINANCIAL GROUP, INC.	288 WASHINGTON TRUST BANCORP, INC.
239 SOUTH FINANCIAL GROUP, INC., THE	289 WASHINGTONFIRST BANCSHARES, INC.
240 SOUTH STATE CORPORATION	290 WEBSTER FINANCIAL CORPORATION
241 SOUTHERN COMMUNITY FINANCIAL CORPORATION	291 WELLS FARGO & COMPANY
242 SOUTHSIDE BANCSHARES, INCORPORATED	292 WESBANCO, INC.
243 SOUTHTRUST CORPORATION	293 WESTAMERICA BANCORPORATION
244 STATE STREET CORPORATION	294 WESTERN ALLIANCE BANCORPORATION
245 STERLING BANCORP	295 WESTERN SIERRA BANCORP
246 STERLING BANCSHARES, INC.	296 WHITNEY HOLDING CORPORATION
247 STERLING FINANCIAL CORPORATION	297 WILMINGTON TRUST CORPORATION
248 STIFEL FINANCIAL CORP.	298 WINTRUST FINANCIAL CORPORATION
249 STOCK YARDS BANCORP, INC.	299 YADKIN FINANCIAL CORPORATION
250 SUMMIT FINANCIAL GROUP, INC.	300 YARDVILLE NATIONAL BANCORP
	301 ZIONS BANCORPORATION

Appendix B. Variable Definitions

Cultural values can take on a score of 1, 0, or -1, where a negative value indicates the antonym. Current and historical versions of bank websites are hand-coded into eight individual cultural values that align with the principal components of culture previously identified in the literature (O'Reilly, Chatman, and Caldwell, 1991; Chatman, Caldwell, O'Reilly, and Doerr, 2014; Guiso, Sapienza, and Zingales, 2015). The website descriptions are consistent with the following values:

1. **Adaptability:** willing to experiment, fast-moving, quick to take advantage of opportunities, taking initiative
2. **Collaboration:** team-oriented, supportive, not aggressive, low levels of conflict
3. **Community:** respectful of diversity, community, and the environment, inclusive, caring, open
4. **Customer-orientation:** listening to customers, being market driven, taking pride in service
5. **Detail-orientation:** paying attention to detail, being precise, emphasizing quality, being analytical
6. **Integrity:** high ethical standards, being honest, accountable
7. **Results-orientation:** high expectations for performance, focus on achievement, not easy going, not calm
8. **Risk-orientation:** unchanging, standardized approach to risk management; not a flexible, tailored, or holistic approach

As an example, the values that Bank of America lists on its website before and after the crisis are shown below (i.e., in 2005 and 2013). The description of “focus on results,” “higher standards,” and “winning” represent a results-orientation value. This is replaced after the crisis by descriptions consistent with values of “integrity” and “risk-orientation.”

Careers

Overview

Job Search

Manage Your Profile

Benefits & Work/Life

Diversity

Our Organization

Corporate Information

Values

Consumer & Commercial Banking

Global Corporate & Investment Banking

Asset Management

Technology & Operations

Consumer Products

Staff Support

Values

Our values helps our customers realize their dreams and makes banking work in ways it never has before.

Our core values

- **Doing the right thing.** Each of us has the freedom, authority, and responsibility to do the right thing for our clients, customers, communities — and each other.
- **Trusting and teamwork.** We rely on each other and succeed together. We take collective responsibility for the quality of client and customer experiences.
- **Inclusive meritocracy.** We care about each other, focus on results and strive to help all associates develop their full potential. We respect and value each other's differences.
- **Winning.** We have a passion for achieving results and winning — for our clients and customers, for our teammates and communities and for our shareholders.
- **Leadership.** We're decisive leaders at every level, communicating our vision and taking action to help build a better future.

Careers

Home

About Us

Diversity and Inclusion

Values

Job Search

Job Areas

Lines of Business

Campus Recruiting

Banc of America Merchant Services, LLC Job Search

Locations

Career Events

Frequently Asked Questions

Give Us Your Feedback

Values

The following four values represent what we believe in as individuals and as a team, and how we aspire to interact with our customers, our shareholders, our communities and one another.

- **Deliver together**
 We believe in the importance of treating each customer, client and teammate as an individual and treating every moment as one that matters. We strive to go the distance to deliver, with discipline and passion. We believe in connecting with people person-to-person, with empathy and understanding. We believe everything we do for customers, clients, teammates and the communities we serve is built on a solid business foundation that delivers for shareholders.
- **Act responsibly**
 We believe that integrity and the disciplined management of risk form the foundation of our business. We are aware that our decisions and actions affect people's lives every day. We believe in making decisions that are clear, fair, and grounded in the principles of shared success, responsible citizenship, and community building.
- **Realize the power of our people**
 We strive to help our employees reach their full potential. We believe that diverse backgrounds and experiences make us stronger. We respect every individual and value our differences - in thought, style, culture, ethnicity and experience.
- **Trust in our team**
 We believe that the best outcomes are achieved when people work together across the entire company. We believe great teams are built on mutual trust, shared ownership and accountability. We act as one company and believe when we work together, we best meet the full needs of our customers and clients.

Bank characteristics

The following characteristics are derived from financial institution FR-Y9 reports:

1. **Size** = $\log(bhck2170)$ (i.e., log of the book value of assets)
2. **Tier 1 capital to assets** = $bhck8274/bhck2170$ (i.e., Tier 1 capital assets divided by the book value of assets)
3. **Deposits to assets** = $(bhdm6631 + bhdm6636 + bhfn6631 + bhfn6636)/bhck2170$
4. **Noninterest income to income** = $(bhdm6631 + bhdm6636 + bhfn6631 + bhfn6636)/bhck2170$
5. **Private mortgage-backed securities (MBS)** = $bhck1709 + bhck1733 + bhck1713 + bhck1736 + bhck3536$ (i.e., total value private-label mortgage-backed securities held in trading and investment portfolios)
6. **Bad loans** = $(bhck5525 + bhck5526)/bhck2170$ (i.e., ratio of loans 90+ days overdue and nonaccrual loans to assets)
7. **Systemically important bank** is an indicator variable equal to 1 if a bank appears on the Financial Stability Board (FSB) list of systemically important financial institutions (SIFIs). The BHCs in the sample with this designation include Bank of America, Bank of New York Mellon, Citigroup, Goldman Sachs, JP Morgan Chase, Morgan Stanley, State Street, and Wells Fargo.

The following characteristics are derived from Compustat data:

1. **Credit Rating** is a categorical variable that can take on one of three values: investment grade, high yield, and no rating. *SPLTICRM* gives the letter rating. Investment grade requires a rating of BBB- or higher on the S&P scale.
2. **Leverage** = $(DLC + DLTT)/AT$
3. **Employees** = EMP
4. **Return on equity (ROE)** = NI/SEQ_{t-1}
5. **Retained earnings to assets** = $REVT/REVT_{t-1}$

6. **Market to book** = $(PRCC_F \times CSHO + DLC + DLTT + PSTKL - TXDITC) / AT$
7. **Large acquisition** = an indicator for $AT/AT_{t-1} > 1.2$

Equity return characteristics

The following characteristics are derived from CRSP data:

1. **Return:** Bank's buy and hold equity market return in calendar year t
2. **Volatility:** Variance of daily returns for bank i in calendar year t
3. **Beta:** Bank's equity beta from a market model of daily returns in excess of three-month U.S. treasury bills, where the market is represented by the value-weighted CRSP index (VWRETD) and all observations are in calendar year t
4. **Financial crisis return:** Annualized equity market return from July 2007 through December 2008
5. **Bank failed:** Indicator variable equal to one if the bank was taken over by the FDIC, merged at a discount relative to the last close prior to the merger announcement, or was forced to delist by an exchange during the period from July 2007 to December 2009
6. **Idiosyncratic risk:** Estimated using the method proposed by [Campbell, Lettau, Malkiel, and Xu \(2001\)](#) that uses daily returns in calendar year t

Governance and ownership characteristics

The following characteristics are derived from Thomson Reuters, Execucomp, Boardex, and Institutional Shareholder Service (ISS) data.

1. **Institutional ownership** = percentage of shares owned by 13-F institutional owners as recorded in Thomson Reuters S34 file at the end of year t .
2. **Entrenchment-index (E-index)** is an alternative index to the index developed by [Gompers, Ishii, and Metrick \(2003\)](#). The E-index is based on a subsample of the most relevant governance matters for firm value as shown by [Bebchuk et al. \(2009\)](#). Of the

six provisions, four set constitutional limits on shareholder voting power, which is the primary power shareholders have. These four arrangements – staggered boards, limits to shareholder amendments of the bylaws, supermajority requirements for mergers, and supermajority requirements for charter amendments – limit the extent to which a majority of shareholders can impose their will on management. Two other provisions are the most well-known and salient measures taken in preparation for a hostile offer: poison pills and golden parachute arrangements. Data on the specific proposals are available from ISS.

3. **Board independence** = percent of directors that are independent on the board. Data are available from Boardex.
4. **CEO Pay** = *TDC1* Data is available from Execucomp.
5. **New CEO** = limit Execucomp sample to *CEOANN* with value “CEO” then check if *EXECID* changes over the course of calendar year t for bank i . Data are available from Execucomp.
6. **CEO Tenure** = calendar year t less the year from *BECAMECEO* Data are available from Execucomp.

In this appendix, I introduce two alternative empirical measures meant to capture executives who try to align expectations and compare it with the cultural consistency measure derived from the corporate websites. I then use this measure in an instrumental variable (IV) regression. The alternative empirical measure focuses on guidance provided by executives about intangible aspects of bank performance. Specifically, I match the banks to transcripts of corporate guidance provided by executives made available by Thomson Reuters. It is important to recognize that guidance is not required, and not all banks provide guidance. Second, when banks do provide guidance, it is usually focused on expected earnings or other quantitative aspects of financial performance. Nevertheless, I create an algorithm to search these guidance transcripts for the words “culture” and “employee” and create an indicator variable equal to one if either of these words is mentioned. I also flag transcripts that provide qualitative rather than quantitative guidance in regard to the bank’s outlook, which is a subtopic designation provided by Thomson Reuters. The final measure combines the word search and the subtopic flagging. I use the date the guidance is given rather than the date the guidance is about (e.g., next year’s earnings) to match to the bank year. This alternative measure is meant to proxy for an executive who deems it important to align expectations even about the less tangible aspects of performance.

I use an instrumental variable approach to test the robustness of the hypothesis that the consistent cultural communication contributes to financial outperformance. The relevance of the instrument comes from the insight that both proxies are associated with expectation formation. In other words, executives who help align outsiders’ expectations are also more likely to invest in aligning insiders’ expectations. The exclusion restriction for the instrumental variable identification requires that executives’ qualitative guidance only alter bank performance via its effect on the consistency of cultural communication.

A natural concern about such an instrument is selection into the sample – which firms provide guidance. Accounting research suggests that firms that provide earnings guidance

are more likely to stop giving guidance when uncertainty is high or when they have lower incentives to offer guidance due to the presence of long-term investors (Chen, Matsumoto, and Rajgopal, 2011). To mitigate the selection concern, I include additional controls for whether the bank provides earnings guidance, institutional ownership, and idiosyncratic risk. Note that the primary focus of guidance is on earnings rather than qualitative aspects of performance. As such, it seems plausible that the qualitative guidance is quasi-random since it is often ad-hoc commentary by executives rather than the numbers selected at the discretion of the finance function.

Table C.1 reports the results of the robustness test. Column (1) shows a strong negative correlation in the cross-section between executive's providing guidance about qualitative matters and the website measure of inconsistent cultural communication. The result is significant at the 95th percentile. Column (2) presents the instrumental variable results. The specification includes controls for bank characteristics, cultural values, earnings guidance characteristics, and time fixed effects. The coefficient on cultural communication exhibits the same sign and economic magnitude as the previous regressions but the standard errors are larger. Part of the explanation for the large standard errors is a weak instrument. For example, the F -statistic on the instrument is only 4.8, which is within standard ranges for a weak instrument. Finding weaker statistical evidence when you have a weak instrument is to be expected. In conclusion, this external validation exercise and instrumental variable test provide some suggestive evidence to support the main finding that consistent cultural communication enhances bank performance.

Table C.1

Robustness tests

This table reports the results of two robustness tests. Column (1) provides cross-sectional evidence on the association between banks that communicate their culture inconsistently and those that have executives who provide qualitative guidance about culture and employees to their investors. This test serves as an external validation of the communication measure. Column (2) then uses this measure of qualitative guidance as an instrument for consistent communication in a regression in which the dependent variable is return on equity (ROE). The sample period for the regressions span from 2004 to 2017. The bank controls include leverage, market-to-book, retained earnings-to-assets, deposits-to-assets, Tier1-capital-to-assets, bank size, and log(employees). Additional guidance controls include institutional ownership, an indicator for earnings guidance, and idiosyncratic risk. Test statistics (reported in parentheses) are derived from standard errors that are robust to heteroskedasticity and clustered at the bank level. ***, **, and * denote statistical significance at the 1%, 5%, and 10% levels, respectively.

	Dependent variable =	
	Number of values described inconsistently	ROE
	(1)	(2)
Indicator for qualitative guidance about culture	-0.330 (2.01)**	
Number of values described inconsistently		-0.033 (1.35)
Bank controls	Y	Y
Time fixed effects	Y	Y
Guidance controls	Y	Y
Cultural value controls	Y	Y
F-statistic	4.8	10.8
R-squared	8%	26%
Observations	2,207	2,207